

In the Claims:

The claim set now appears as follows:

1. (Currently Amended) A process for screening a plurality of chemical compounds for anti-neoplastic activity comprising:

(a) contacting a compound with one or more cells expressing a polynucleotide comprising a nucleotide sequence ~~corresponding to~~ encoding the same protein as a gene whose expression is increased in a cancerous cell over that in a non-cancerous cell of the same tissue type or a gene whose expression is elevated in a non-cancerous cell over that in a cancerous cell of the same tissue type ~~under conditions wherein said polynucleotide is being expressed~~, and

(b) determining a change in expression of more than one of said polynucleotides, wherein an increase in the expression of the determined genes whose expression is elevated in a non-cancerous cell over that in a cancerous cell and a decrease in the expression of the determined genes whose expression is increased in a cancerous cell over that in a non-cancerous cell

is indicative of anti-neoplastic activity.

2. (Currently Amended) The process of claim 1 wherein expression is determined for ~~more than one said gene~~ at least 3 said genes.

3. (Original) The process of claim 1 wherein expression is determined for at least 5 said genes.

4. (Original) The process of claim 1 wherein expression is determined for at least 10 said genes.

5. (Currently Amended) The process of claim 1 wherein expression is determined for ~~all said genes in a given signature gene set~~ more than 10 said genes.

6. (Withdrawn) A process for determining the cancerous status of a test cell, comprising determining expression in said test cell of at least one gene that includes one of the nucleotide sequences selected from the sequences of SEQ ID NOS: 1 – 1067, or a nucleotide sequence that is at least 95% identical thereto, and then comparing said expression to expression of said at least one gene in at least one cell known to be non-cancerous whereby a difference in said expression indicates that said cell is cancerous.

7. (Withdrawn) The process of claim 6 wherein said expression is the expression of more than one said gene.

8. (Withdrawn) The process of claim 6 wherein said expression is the expression of at least 5 said genes.

9. (Withdrawn) The process of claim 6 wherein said expression is the expression of at least 10 said genes.

10. (Withdrawn) The process of claim 6 wherein said expression is the expression of all said genes.

11. (Withdrawn) A process for determining a cancer initiating, facilitating or suppressing gene comprising the steps of contacting a cell with a cancer modulating agent and determining a change in expression of a gene selected from the group consisting of the gene sequences of SEQ ID NO: 1 – 1067 and thereby identifying said gene as being a cancer initiating or facilitating gene.

12. (Withdrawn) The process of claim 11 wherein the gene determined by said process is an oncogene.

13. (Withdrawn) The process of claim 11 wherein the gene determined by said

process is a cancer facilitating gene.

14. (Withdrawn) The process of claim 11 wherein the gene determined by said process is a cancer suppressor gene.

15. (Withdrawn) The process of claim 11 wherein said cancer modulating agent has the effect of increasing gene expression.

16. (Withdrawn) The process of claim 11 wherein said cancer modulating agent has the effect of decreasing gene expression.

17. (Withdrawn) A process for treating cancer comprising contacting a cancerous cell with an agent having activity against an expression product encoded by a gene sequence selected from the group consisting of SEQ ID NO: 1 – 1067.

18. (Withdrawn) The process of claim 17 wherein said cancerous cell is contacted *in vivo*.

19. (Withdrawn) The process of claim 17 wherein said agent comprises a portion having affinity for said expression product.

20. (Withdrawn) The process of claim 19 wherein said portion having affinity for said expression product is an antibody.

21. (Withdrawn) The process of claim 17 wherein said agent is an apoptosis-inducing agent.

22. (Withdrawn) A process for determining a cancer initiating, facilitating or suppressing gene in a cancer cell comprising determining a change in expression of a gene sequence selected from the group consisting of the sequences of SEQ ID NO: 1 –



1067.

23. (Withdrawn) The process of claim 22 wherein said change in expression is determined by determining a change in gene copy number.

24. (Withdrawn) The process of claim 23 wherein said change in copy number is an increase in copy number.

25. (Withdrawn) The process of claim 23 wherein said change in copy number is a decrease in copy number.

26. (Withdrawn) The process of 23 wherein said change in gene copy number is determined by determining a change in expression of messenger RNA encoded by said gene sequence.

27. (Withdrawn) The process of claim 23 wherein said gene is a cancer initiating gene.

28. (Withdrawn) The process of claim 23 wherein said gene is a cancer facilitating gene.

29. (Withdrawn) The process of claim 23 wherein said gene is a cancer suppressing gene.

30. (Withdrawn) A process for diagnosing a cancerous cell comprising determining a cancer initiating, facilitating or suppressing gene according to claim 23.

31. (Withdrawn) A process for treating cancer comprising inserting into a cancerous cell a gene construct comprising an anti-cancer gene operably linked to a promoter or enhancer element such that expression of said anti-cancer gene causes

suppression of said cancer and wherein said promoter or enhancer element is a promoter or enhancer element modulating a gene sequence selected from the group consisting of the sequences of SEQ ID NO: 1 – 1067.

32. (Withdrawn) The process of claim 32 wherein said anti-cancer gene is a cancer suppressor gene.

33. (Withdrawn) The process of claim 32 wherein said anti-cancer gene encodes a polypeptide having anticancer activity.

34. (Withdrawn) The process of claim 34 wherein said polypeptide has apoptotic activity.

35. (Withdrawn) The process of claim 32 wherein said inserting into a cancerous cell is accomplished *in vivo*.

36. (Withdrawn) The process of claim 32 wherein said inserting into a cancerous cell further comprises use of a viral or plasmid agent and is accomplished either *in vitro* or *in vivo*.

37. (Withdrawn) The process of claim 32 wherein said cancer is colon cancer.

38. (Withdrawn) The process of claim 38 wherein said cancer is adenocarcinoma.

39. (Withdrawn) A process for determining functionally related genes comprising contacting one or more gene sequences selected from the group consisting of the sequences of SEQ ID NO: 1 – 1067 with an agent that modulates expression of more than one gene in such group and thereby determining a subset of genes of said group.

40. (Withdrawn) The process of claim 40 wherein said functionally related genes are genes modulating the same metabolic pathway.

41. (Withdrawn) The process of claim 40 wherein said genes are genes encoding functionally related polypeptides.

42. (Withdrawn) The process of claim 40 wherein said all of genes are genes whose expression is modulated by the same transcription activator or enhancer sequence.

43. (Canceled)

44. (Original) A process for screening for an anti-neoplastic agent comprising the steps of:

- (a) exposing cells to a chemical agent to be tested for antineoplastic activity, and
- (b) determining a change in expression of at least one gene of a signature gene set, or a sequence that is at least 95% identical thereto,

wherein a change in expression is indicative of anti-neoplastic activity.

45. (Currently Amended) The process of ~~claim 45~~ claim 44 wherein said change in expression is an increase in expression.

46. (Currently Amended) The process of ~~claim 45~~ claim 44 wherein said change in expression is a decrease in expression.

47. (Currently Amended) The process of ~~claim 45~~ claim 44 wherein said change in expression is a change in expression of at least 5 genes of said signature gene set.

48. (Currently Amended) The process of ~~claim 45~~ claim 44 wherein said change

in expression is a change in expression of at least 10 genes of said signature gene set.

49. (Currently Amended) The process of ~~claim 45~~ claim 44 wherein said change in expression is a change in expression of at least half of the genes of said signature gene set.

50. (Currently Amended) The process of claim 1 wherein ~~the change in expression in step (b) comprises at least one of said genes being increased in expression and at least one of said genes being decreased in expression~~ at least one of said determined genes is a gene whose expression is increased in a cancerous cell versus a non-cancerous cell of the same tissue type and at least one of said determined genes is a gene whose expression is increased in a non-cancerous cell versus a cancerous cell of the same tissue type.

51. (Currently Amended) The method of claim 1 wherein said nucleotide sequence is selected from the group consisting of SEQ ID NO: ~~1-1067~~ 16, 87, 453, 462, 468, 651, 865, 1015, 1027 and 1051.

52. (Currently Amended) A method for producing test data with respect to the anti-neoplastic activity of a compound comprising:

(a) contacting a compound with one or more cells ~~containing~~ expressing a polynucleotide comprising a nucleotide sequence ~~corresponding to~~ encoding the same protein as a gene whose expression is increased in a cancerous cell over that in a non-cancerous cell or a gene whose expression is ~~elevated~~ increased in a non-cancerous cell over that in a cancerous cell ~~under conditions wherein said polynucleotide is being expressed,~~ and

(b) determining a change in expression of more than one of said polynucleotides, and

(c) producing test data with respect to the gene modulating activity of said compound based on an increase in the expression of the determined genes whose

Serial No.: 09/873,367
Filed: 5 June 2001

expression is otherwise elevated in a non-cancerous cell over that in a cancerous cell and a decrease in the expression of the determined genes whose expression is otherwise increased in a cancerous cell over that in a non-cancerous cell indicating anti-neoplastic activity.